

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012934 A1

(51) International Patent Classification⁷: **G01S 5/02,**
H04B 7/185

(21) International Application Number:
PCT/AU2004/001024

(22) International Filing Date: **3 August 2004 (03.08.2004)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
2003904046 4 August 2003 (04.08.2003) AU

(71) Applicant (for all designated States except US): **LOCATA CORPORATION [US/US]; 9 Island View, Irvine, CA 92604 (US).**

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SMALL, David [AU/AU]; Unit 63, 13-15 Sturt Avenue, Griffith, ACT 2603 (AU).**

(74) Common Representative: **SMALL, David; 401 Clunies Ross St, Acton, ACT 2601 (AU).**

(81) Designated States (unless otherwise indicated, for every kind of national protection available): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**

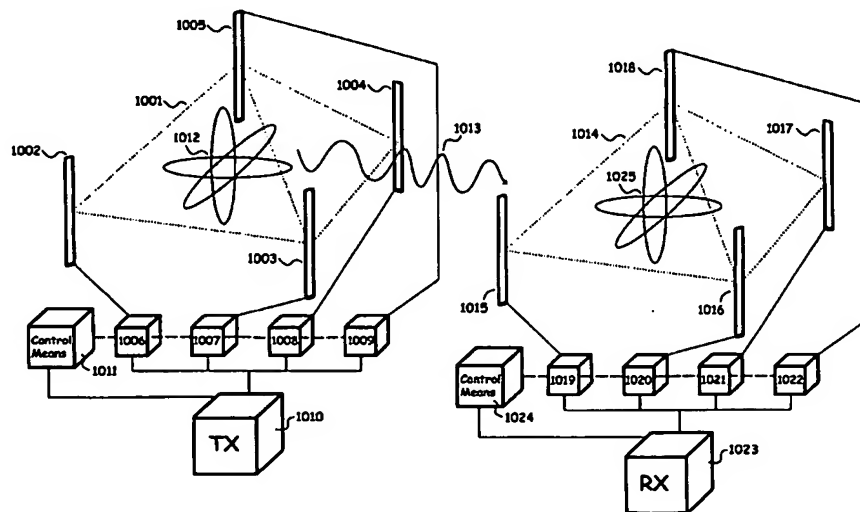
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **A SYSTEM & METHOD FOR DETERMINING ATTITUDE USING SPATIAL SHIFT KEY (SSK) MODULATION SIGNATURES**



(57) Abstract: An attitude system that includes a radiating means which moves predeterminedly through three-dimensional space, such that a cyclic Doppler is superimposed upon a transmitted signal; receiving this transmitted signal through a receiving means which moves predeterminedly through three-dimensional space, such that a cyclic Doppler is superimposed upon the received signal; analyzing the movement of the receive means in relation to the radiating means by interpreting the received cyclic Doppler; and determining attitude based on the interpreted Doppler. Or alternatively, adjusting the movement of the receive means in three-dimensional space so the superimposed cyclic Doppler is minimized on the received signal and; determining attitude based on the adjustment required to bring the receive means and radiating means into an alignment.

WO 2005/012934 A1